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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WOO, RICHARD SUKYOON	

ART UNIT	PAPER NUMBER
3629	

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/735,256	BLOUIN ET AL.	
	Examiner	Art Unit	
	Richard Woo	3629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 07 October 2004.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-27 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-27 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1) An applicant's amendment filed October 7, 2004 has been entered and acknowledged.

2) Applicant's arguments filed October 7, 2004 have been fully considered but they are not persuasive.

In response to applicant's argument that "future technology" has been replaced with "unknown technology" as suggested in the rejection so as to overcome 35 U.S.C. 112, 2nd paragraph, the examiner respectfully disagrees to the assertion that the examiner suggested "unknown technology" to overcome the rejection. The prior office action clearly shows that the recitation of "future technology" renders the claim indefinite because the applicant has clearly failed to particularly point out and distinctly claim the subject matter instead of claiming **something unknown at the time the invention was made** to the applicant. Both "future technology" and "unknown technology" render the claim indefinite because the general public or even someone having ordinary skill in the art would not apprehend what kind of technology will constitute the future or unknown technology. Unless the this technology was known to the applicant when the invention was made to the applicant, the applicant cannot be entitled to receive an exclusive patent protection of that specific technology (e.g. if anyone claims an true artificial intelligence being included in his/her invention even though the applicant has no clue how this unknown technology should work and be implemented into his/her invention, the applicant never succeeds to satisfy the requirements under 35 U.S.C. 101, or 112,

1st and 2nd paragraph.). A mere prediction in the future may never be construed to a true invention.

In response to the applicant's argument that "Manufacturing" does not disclose "performing a regression analysis on historical costs of historical critical dimensions at a fabricator" to create models "showing a relationship between the historical critical dimensions and the historical costs", the examiner would like to invite the applicant's attention to the Figures 2-3 and Tables 1-2. Supra Figure and Tables shows the historical critical dimensions (chip complexity, size reduction, chip size increase, wafer diameter and etc) and the historical costs (e.g. the reduction in cost per active chip element shown in Fig. 2). Furthermore, Supra Tables shows the program or model showing a relationship between the costs and dimensions based on the analysis thereof. For example, the model or program predicts the trend in year 2005 through 2010 based on the analysis. Especially, the data on 2003 (in Tables 1-2) has been predicted based on the programs (the paper was written in 1998).

Claim Rejections - 35 USC § 112

3) Claims 4-5, 11-12, 19-20 and 24-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 4, lines 1-2, the recitation of "a unknown technology" renders the claim indefinite because it is not clear what kind of technology constitutes the unknown

technology. See Supra response to the argument. The Claims 11, 19 and 24 subsequently suffer the similar indefiniteness.

In Claim 5, line 2, the recitation of "said future technology" lacks antecedent basis. The Claims 12, 20 and 25 identically suffer the same indefiniteness.

Claim Rejections - 35 USC § 102

4) Claims 1-27, as far as Claims 4-7, 11-12, 19-20, 24-25 and 27 are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by "21st Semiconductor Manufacturing Capabilities" (hereinafter "Manufacturing").

As for Claim 1, Manufacturing discloses a system comprising:

a storage medium (inherently any facility running the "Next Generation Manufacturing" must have the storage medium to store pertinent data) including a database of historical critical dimensions and historical critical ground rules correlated to cost functions at the fabricator (see Figs. 2-3 and Tables 1-3);

a user interface (keyboard or mouse) having user inputs for new design parameters and new critical ground rules associated with a new device to be produced at the fabricator; and

a computer adapted to receive the user inputs;

perform a regression analysis on historical costs of historical critical dimensions at the fabricator, using the historical critical dimensions as independent variables and the historical costs as dependent variables;

create models (programs) from the regression analysis showing a relationship between the dimensions and costs (see Figs. 2-3 and Tables 1-3);

input new design parameters and new critical dimensions (see 2003 data or further later predictions); and

predict product costs of the new device based on the models (see Supra Response to Applicant's argument).

As for Claim 2, Manufacturing further discloses the system, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Figs. and tables).

As for Claim 3, Manufacturing further discloses the system, wherein the new critical dimensions are smaller than the historical critical dimensions (see Id.).

As for Claim 4, Manufacturing further discloses the system, wherein the new device includes a future technology generation.

As for Claim 5, Manufacturing further discloses the system, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown.

As for Claim 6, Manufacturing further discloses the system, wherein relationships include base models and models that include options (see Figs. and Tables).

As for Claim 7, Manufacturing further discloses the system, wherein relationships include models that illustrate that costs increase exponentially as the historical critical

dimensions and the historical critical ground rules are reduced (see Supra Figs. and Tables).

As for Claim 8, Manufacturing discloses a method comprising the steps of:

performing a regression analysis on historical costs of historical critical dimensions at a fabricator, using the dimensions as independent variable and the cists as dependent variables (see Figs. 2-3 and Tables 1-3 and the descriptions thereof);

creating, in a database, models from the regression analysis showing a relationship between the dimensions and costs (see Supra Figs. and Tables); and

inputting new design parameters and new critical dimensions of a new device into the database and predicting product costs of the new device based on the models (see Supra Response to applicant's argument).

As for Claim 9, Manufacturing further discloses the method, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Figs. and Tables).

As for Claim 10, Manufacturing further discloses the method, wherein the new critical dimensions are smaller than the historical critical dimensions (see Id.).

As for Claim 11, Manufacturing further discloses the method, wherein the new device includes a future technology generation.

As for Claim 12, Manufacturing further discloses the method, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown.

As for Claim 13, Manufacturing further discloses the method, wherein relationships include base models and models that include options (see Supra Figs. and Tables).

As for Claim 14, manufacturing further discloses the method, wherein relationships include models that illustrate that costs increase exponentially as the historical critical dimensions and the historical critical ground rules are reduced (see Id.).

As for Claim 15, Manufacturing discloses a system comprising:

a regression analyzer adapted to determine relationships between historical critical dimensions of historical technologies and costs of historical technologies (see the entirety of document, to note how "Operational modeling and simulation" and "Knowledge Management" work to compute the costs for the new design);

a user interface for inputting a new critical dimension of a new technology; and

a calculator for predicting a cost of the new technology based on the new critical dimension and the relationships (see especially Figs 2-3. and Tables 1-3 and Supra Response to applicant's argument).

As for Claim 16, Manufacturing further discloses the system, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Figs. and Tables).

As for Claim 17, Manufacturing further discloses the system, wherein the new dimensions are smaller than the historical dimensions (see Id.).

As for Claim 18, Manufacturing further discloses the system including a storage unit adapted to store a database of the relationships.

As for Claim 19, Manufacturing further discloses the system, wherein the new device includes a future technology generation.

As for Claim 20, Manufacturing further discloses the system, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown.

As for Claim 21, Manufacturing discloses a method comprising:

performing a regression analysis on historical costs of historical critical dimensions at a fabricator, using the dimensions as independent variable and the cists as dependent variables (see the entirety of document, to note how "Operational modeling and simulation" and "Knowledge Management" work to compute the costs for the new design);

creating, in a database, models from the regression analysis showing a relationship between the dimensions and costs; and

inputting new design parameters and new critical dimensions of a new device into the database and predicting product costs of the new device based on the models (see especially Figs. 2-3, Tables 1-3 and Supra Response to Applicant's Argument).

As for Claim 22, Manufacturing further discloses the method, wherein the historical critical dimensions and the new critical dimensions include gate dimensions (see Supra Figs. and Tables).

As for Claim 23, Manufacturing further discloses the method, wherein the new critical dimensions are smaller than the historical critical dimensions (see Id.).

As for Claim 24, Manufacturing further discloses the method, wherein the new device includes a future technology generation.

As for Claim 25, Manufacturing further discloses the method, wherein fabrication hardware and fabrication methods for producing the future technology generation are unknown.

As for Claim 26, Manufacturing further discloses the method, wherein relationships include base models and models that include options (see Figs. and Tables).

As for Claim 27, Manufacturing further discloses the method, wherein relationships include models that illustrate that costs increase exponentially as the historical critical dimensions and the historical critical ground rules are reduced (see Id.).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Woo whose telephone number is 703-308-7830. The examiner can normally be reached on Monday-Friday from 8:30 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Weiss can be reached on 703-308-2702. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Richard Woo
Patent Examiner
Art Unit 3629
January 7, 2005

JOHN G. WEISS
SUPERVISORY PATENT EXAMINER
TECH... 3600